

ABSTRACT

A rotary piston heat engine system (100), composed of two units (I, II) each comprising two pistons (1, 2) mounted for movement in opposite directions, the pistons being each mounted for rotation in a cylinder (3, 3'), wherein the longitudinal axes (4, 4') of the pistons (2, 2') and cylinder (3, 3') are collinear, and the pistons (1, 2) are mounted for movement in opposite directions, and a plurality of effective cylinder displacements (8, 9, 11, 12) is formed in each case between two radial boundary surfaces (10, 20) of the two respective pistons (1, 2), which execute an angular motion relative to each other when the engine (100) is operating, and at least one mechanism (110) is provided that superimposes a circular motion on the angular motion of the two pistons (1, 2), and each unit comprises a shaft (6, 6') for driving a torque-producing device (5, 5', 5''), and heating means, heat storage means and cooling means connected to a pipe system are provided, by means of which the inlet ports (130, 130'; 131, 131') and outlet ports (140, 140'; 141, 141') of the displacements of the cylinders (3, 3') of the units (I, II) are connected to each other, can be adapted for a plurality of different operational states, such as different temperature and pressure conditions in the cylinders, by the provision of a compensating device that balances the positions of the respective pistons in the two units (I, II) in the event of a possible phase shift in the synchronization of the two units (I, II), in order to effect an optimal phase response.

(Fig. 11)